
•High energy sources and HI tomography during the dark ages

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Résumé

The re-ionization of the universe that took place during the first billion years after the Big Bang is one of the major frontiers in cosmology. Until recently, most models of the re-ionization had considered only the ultraviolet radiation from the first generations of massive stars as the only factor in the process of re-ionization of the intergalactic medium. I will show that besides the UV radiation of massive stars, feedback from the fossils of those massive stars (X-rays and relativistic jets from i.e. accreting stellar black holes), played an important role determining the early thermal history of the universe and partially ionizing the intergalactic medium over large volumes of space. Feedback from accreting black holes had a direct impact on the tomography of HI to be observed with SKA, as well as on the properties of the faintest galaxies at high redshifts, the smallest dwarf galaxies in the local universe, and on the cold dark matter model of the universe.

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